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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/530,174	11/09/2005	Midori Araya		5613

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EXAMINER	
MARTIN, LAURA E	

ART UNIT	PAPER NUMBER
2853	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/530,174	ARAYA ET AL.	
	Examiner	Art Unit	
	LAURA E. MARTIN	2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 April 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *04 April 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *4/4/05, 6/12/07*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

Acknowledgement is made of the information disclosure statement (IDS) submitted on 4/4/05 and 6/12/07. The submission is in compliance with the provisions of 37 CFR 1.97.

Priority

Acknowledgement is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed on 4/4/05.

Specification

The abstract of the disclosure is objected to because it contains numbers referencing the drawings. Correction is required. See MPEP § 608.01(b).

Claim Objections

Claim 6 is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple claim. See MPEP § 608.01(n). Accordingly, the claim 6 not been further treated on the merits.

Claim 5 is objected to because of the following informalities: it does not use proper antecedent basis for "the idle roller" which was not introduced in claim 3 from which it is dependent. Appropriate correction is required.

Claim 11 is objected to because of the following informalities: "material of a member" lacks proper antecedent basis.

Claim 15 is objected to because of the following informalities: "The printing method" lacks proper antecedent basis.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Claims 1-3, 5, 8, 11, 12, 15, 17, and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Odai (JP 2000-043243 A).

Odai discloses the following claim limitations:

As per claim 1: a printing apparatus for forming a dot in a desired position of a printing sheet by ejecting an ink droplet from a nozzle comprising: a static electricity eliminating mechanism (figure 1, element 12), which eliminates static electricity generated on the printing sheet by a conductive member (figure 1, element 14) that is arranged in a position to which the ink droplet is ejected (figure 1, element 311) from the nozzle or an upstream side of such position on a path which the printing sheet passes.

As per claim 2: an earthing unit which earths the conductive member [0014].

As per claim 3: the conductive portion is formed in a sheet feed roller [0014] and (figure 1, elements 12 and 14).

As per claim 5: an earthing unit which earths the sheet feed roller constituting the conductive portion or an idle roller constituting the conductive portion [0014].

As per claim 8: the conductive member is a conductive member that is arranged in the position to which the ink droplet is ejected from the nozzle or the upstream side of such position on the path through which the printing sheet passes and is connected to a chassis that is different from a paper feed member (figure 1, element 15).

As per claim 11: a material of a member constituting the pat through which the printing sheet passes is configured by selecting material that is near material of the printing sheet in a charging sequence table [0015] ("near" is not defined, and thus it could be almost any material).

As per claim 12: a surface of a member constituting the path through which the printing sheet passes is coated with material or a surfactant that is near material of the printing sheet in a charging sequence table [0015] ("near" is not defined, and thus it could be almost any material).

As per claim 15: a printing method for forming a dot in a desired position of a printing sheet by ejecting an ink droplet from a nozzle, comprising the steps of: transporting the printing sheet to a nozzle position (figure 1); eliminating static electricity generated on the printing sheet before the printing sheet reaches to the nozzle position (figure 1, elements 12 and 14); and printing by ejecting the ink droplet from the nozzle after the static electricity is eliminated (the roller is touching the paper, thus the static electricity would be eliminated).

As per claim 17: the static electricity eliminating step is performed by a static electricity eliminating portion that is formed in a printing sheet feed roller [0015] and (figure 1, element 12).

As per claim 18: the static electricity eliminating step is performed by a static electricity eliminating portion that is formed of a conductive member on which a plurality of projected portions arranged immediately before a nozzle position on a path through which the printing sheet passes are formed [0015] and (figure 1).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Odai (JP 2000-043243 A) in view of Kakumori (JP 10-081008A).

Odai discloses the following claim limitations:

As per claim 4: the printing apparatus of claim 1.

Odai does not disclose the following claim limitations:

As per claim 4: the conductive portion is formed in an idle roller that pushes the printing sheet against the sheet feed roller with pressure.

Kakumori discloses the following claim limitations:

As per claim 4: the conductive portion is formed in an idle roller that pushes the printing sheet against the sheet feed roller with pressure (figure 2, elements 25, 24, and solution).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the printing apparatus taught by Odai with the disclosure of Kakumori in order to reduce printing disorder.

Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Odai (JP 2000-043243 A) in view of Kawaguchi et al. (US 2003/0030712 A1).

Odai discloses the following claim limitations:

As per claim 6 and 7: the printing apparatus of claims 1 and 5.

As per claim 6: a sheet feed roller is formed by coating a predetermined insulating coating on the surface of a conductive rod-shaped member [0015] and (figure 1).

Odai does not disclose the following claim limitations:

As per claim 6: the conductive portion is formed by stripping off a part of the coating on the sheet feed roller or the idle roller, and the rod-shaped member of the sheet feed roller or the idle roller is connected to the printing apparatus (figure 4) and [0037]; part of the roller is within the printing apparatus, therefore it is connected.

As per claim 7: a strip-off portion of the coating on the sheet feed roller is formed at least at two locations and wherein the idle roller is formed so as to push the printing sheet by the strip-off portion.

Kawaguchi et al. disclose the following claim limitations:

As per claim 6: the rod-shaped member of the sheet feed roller or the idle roller is connected to the printing apparatus.

As per claim 7: a strip-off portion of the coating on the sheet feed roller is formed at least at two locations and wherein the idle roller is formed so as to push the printing sheet by the strip-off portion.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the printing apparatus taught by Odai with the disclosure of Kawaguchi et al. in order to reduce cost increase of the printer and to form high quality images.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Odai (JP 2000-043243 A) in view of Kishi et al. (US 5623295 A).

Odai discloses the following claim limitations:

As per claim 9: the printing apparatus of claim 8.

Odai does not disclose the following claim limitations:

As per claim 9: the conductive member is a conductive member having a sharp tip; and wherein the sharp tip is arranged to be directed at the printing sheet.

Kishi et al. disclose the following claim limitations:

As per claim 9: the conductive member is a conductive member having a sharp tip; and wherein the sharp tip is arranged to be directed at the printing sheet (figure 1, element 102) and (column 5, lines 26-39).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the printing apparatus taught by Odai with the disclosure of Kishi et al. in order to prevent reproduction errors.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Odai (JP 2000-043243 A) in view of Sasaki et al. (US 2001/0038411 A1).

Odai discloses the following claim limitations:

As per claim 10: the printing apparatus of claim 1.

Odai does not disclose the following claim limitations:

As per claim 10: a plurality of projected portions are formed on a contact surface with which the printing sheet comes into contact on the path through which the printing sheet passes to reduce a contact area.

Sasaki et al. disclose the following claim limitations:

As per claim 10: a plurality of projected portions are formed on a contact surface with which the printing sheet comes into contact on the path through which the printing sheet passes to reduce a contact area [0192].

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the printing apparatus taught by Odai with the disclosure of Sasaki et al. in order to reduce the printing apparatus size while keeping a high quality image.

Claims 13, 14, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Odai (JP 2000-043243 A) in view of Otsuki et al. (EP 1193072 A1).

Odai discloses the following claim limitations:

As per claim 13: a printing apparatus for forming a dot in a desired position of a printing sheet by ejecting an ink droplet from a nozzle, comprising: a static electricity eliminating mechanism (figure 1, element 12), which eliminates static electricity generated on the printing sheet by a conductive member (figure 1, element 14) that is arranged in a position to which the ink droplet is ejected from the nozzle or an upstream side of such position on a path through which the printing sheet passes (figure 1, element 311).

As per 16: the printing method of claim 15.

Odai does not disclose the following claim limitations:

As per claim 13: a printing unit which ejects the ink droplet from the nozzle to an area that is out of a size of the printing sheet.

As per claim 14: the ink absorbing member for the ink droplet ejected to an outside of the printing sheet is arranged on a platen.

As per claim 16: a printing mode in which the ink droplet is ejected from the nozzle to an area that is out of a size of the printing sheet.

Otsuki discloses the following claim limitations:

As per claim 13: a printing unit which ejects the ink droplet from the nozzle to an area that is out of a size of the printing sheet (figure 1, element 27r).

As per claim 14: the ink absorbing member for the ink droplet ejected to an outside of the printing sheet is arranged on a platen (figure 1, element 27r).

As per claim 16: a printing mode in which the ink droplet is ejected from the nozzle to an area that is out of a size of the printing sheet (figure 1, element 27r).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the printing unit taught by Odai with the disclosure of Otsuki in order to allow effective edge printing.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LAURA E. MARTIN whose telephone number is (571)272-2160. The examiner can normally be reached on Monday - Friday, 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/L. E. M./
Examiner, Art Unit 2853

Laura E. Martin

/Manish S. Shah/
Primary Examiner, Art Unit 2853